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ABSTRACT

Parents can do a great deal to support a child's learning in any subject area, especially mathematics. This paper reviews literature discussing what teachers and school administrators can do to establish parent-teacher partnerships to enhance children's learning of mathematics. Discussion includes a developmental process, intentional planning, cooperation, good leadership, monitoring, communication, participation, school commitment, newsletters, meetings, instructional materials, past unpleasant school memories of parents, evening classes, booklets sent home with child's school work, and math clinics. Contains 15 references. (MKR)

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Parent-Teacher Partnerships: Enhancing Learning in Mathematics

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Parent-Teacher Partnerships: Enhancing Learning in Mathematics

Parents can do a great deal to support a child's learning in any subject area. Many studies have verified this point. Williams and Chavkin (1989) indicate that the most successful students are those whose parents become actively engaged in the educational process, perhaps mainly at home but to an important degree at the school itself as well. When parents are involved in a child's learning in almost any form - as teacher, supporter or reinforcer of activities, the involvement affects student achievement (Sattes, 1989).

Anderson (1986) investigated parental involvement with children, parent perceptions, children's achievement and the relationship between changes in parent involvement and changes in student achievement. The subjects included three groups of 38 students and their parents. The findings of the study indicate that information programs may improve parent involvement, may have a positive influence on parent perception and may or may not affect student achievement.

According to Nebor (1986), when parents take an active and positive part in their children's education, the results often turn out well for the student. At at any level of school age, involving parents is a worthwhile investment for schools (Sattes, 1989). Teachers should give particular

attention to the involvement of parents in considering ways of improving student achievement. Research shows that the factors associated with the child's parents, family or home environment have a greater impact on achievement than do school related factors (Hart, 1989).

Griffiths and Hamilton (1985) report that children learn first and foremost from their parents. Research and practice have shown that when parents consistently help with their own children's school learning, those children show significant gains in achievement. As children enter school, their parents' expectations and the experiences provided by their parents continue to influence how well children read (Hart, 1989). If this is true for reading, could it also be true for learning math? Hart (1988) indicates that there is strong evidence to indicate that when parents show an interest in the schooling of their children, they promote the developing of attitudes that are of utmost importance to achievement.

Sattes (1989) indicates that children's attitudes about school are determined and shaped by the way parents communicate values about school and learning. Parents who are involved in programs in the schools play a major role in creating a desirable context for learning. Parents who participate in an active and meaningful way can develop good communication between the school and the family (Comer, 1986).

Lindle (1989) states that parents respect school personnel who return that respect. School personnel cannot earn parents' respect by

using a cold, businesslike approach. Personal attention will most likely win parent favor. Parents want to be equal partners with the school in bringing up their children.

What can teachers and school administrators do to establish a parent-teacher partnership to enhance children's learning of mathematics?

Parental involvement is a threefold process: a partnership between parents and teachers; a developmental process that is built over a period of time through intentional planning and effort and a process whereby parents and teachers work, learn and participate in decision-making experiences in a shared manner.

Good leadership is crucial to establishing a parent-teacher partnership. Teachers and administrators can create and make parent-teacher partnerships meaningful and lasting if they understand that parents want to stay informed.

In researching parental involvement where partnerships can be formed there seems to be three levels. They are monitoring, informing and participation. Monitoring refers to the parent being aware of the school situation. Informing means letting the parents know about the policies, procedures, aims and expectations that exist in the school and classroom. Participation is the level in which parents become actively involved in the classroom. This level is the foundation for the parent-teacher partnership. Parents need the opportunity to develop the skills

and knowledge necessary to work well with the school and to develop a true partnership. The school needs to express its commitment to the parent-teacher partnership with money and time. Teachers and administrators should be involved in planning and evaluating parent programs within their schools (Sattes, 1989). Teachers can solicit the assistance of parents in helping the school fulfill its instructional task. Parents could be asked to take part in classroom instruction and act as classroom tutors. Some schools have organized entire groups of parent volunteers to participate actively in the life of the school It is of utmost importance to conceptualize home-school involvement programs (Rasinski & Fredericks, 1989 c).

Flexer and Topping (1988) present several different ways teachers can share their ideas about mathematics with parents and give them insights into how mathematics is best taught and learned. The three primary avenues are through newsletters, by bringing parents to schools for meetings and by sending instructional materials and directions home with children.

The most successful and happiest teachers regard parents as friends and partners in the task of educating children. Teachers have to keep in mind that many parents have special needs such as the single parent, the mobile parent, the parent of a handicapped child, the middle class parent and the inexperienced parent (Gelfer and Perkins, 1987). These parents

may need additional suggestions and help for becoming a partner in their child's learning.

Many teachers believe they can only be effective if they obtain parental assistance in learning activities at home. They may make requests for parental assistance but should do more to involve parents in learning activities at home. According to some reports, teachers who have made use of parental involvement practices established more equitable programs involving parents. Research is very scarce on whether teacher's efforts have any measurable effects on the parents who are involved (Epstein, 1986) but teachers who want parents to help must organize and conduct workshops for parents. Teachers need to prepare materials for parents that are clear and easy to follow.

Secada (1989) outlined three dimensions of parental involvement that make up a parent-teacher partnership. These are: (1) service to schools such as participating in school governance activities, working in classrooms as paid aides or volunteers; (2) home-school relationships such as written and phone communication, home visits by teachers, parent-teacher conferences at school, parent education and training sponsored by the school, recorded messages about homework, and the establishment of a hot line in the native language of parents, and (3) support of learning activities at home such as assisting with homework, tutoring, providing educational enrichment activities.

Many parents do have unpleasant memories of their school experiences. In order for teachers to establish and maintain a good relationship and a partnership, these unpleasant experiences must be eradicated. Many experiences can be planned and carried out.

School personnel can offer evening classes to parents in which parents are given information about the school's math program and suggestions about ways to help their children with math activities.

A short booklet for parents can be developed which includes games, activities, books, a school calendar, a letter describing a typical day, and activities that parents might use with their children. Suggestions for using allowances, for making decisions about purchases using newspaper ads and sale flyers in shopping, using measuring in cooking, making schedules for TV time, or completing chores, setting a table, finding shapes in a room, and sorting clothes for washing might be included.

Parent meetings could be held in which teachers discuss their expectations for children in mathematics. At the parent meetings, teachers can share their beliefs and philosophy of how children construct knowledge in math, why they feel using manipulatives in the classroom is important and how calculators and computers are used in the learning of mathematics. Parents can express their concerns and ask questions about practices.

At other meeting parents can perform many of the activities their

children do at school - that is, working with manipulatives such as geoboards, Cuisenaire rods, tangram puzzles and Unifix cubes. Parents can work problems similar to those solved by their children in which they use calculators and problem solving strategies such as acting out the problem or drawing a picture or diagram. Parents can make predictions or construct graphs using activities and problems appropriate for their children. These activities provide parents with ideas of appropriate activities that they can use at home with their children. Parents gain an understanding of how math activities can be completed without using a worksheet.

Teachers can periodically send gifts to parents, gifts such as booklets with samples of the children's math activities, drawings or journals, samples possibly based on a theme or unit topic.

Parent conferences are another way in which parent-teacher partnerships can be formed. Parent conferences are vital for teachers, parents and children alike. Conferences encourage parental involvement in the school, provide new information that can be put into the school's program, and help parents become closely involved in their child's education. When parents and teachers have a working relationship, the children always benefit (Gelfer & Perkins, 1987). Listen carefully to what parents say and respect their opinions. Seek and obtain their suggestions. Consider and reinforce the ideas and suggestions of parents.

Teachers can help children prepare a monthly calendar for parents with several child-centered math activities to be completed at home. They can send a weekly note to parents written by children and duplicated in which math activities and explorations completed are described.

Teachers can provide materials, ideas and suggestions for parents that include ways to provide a good learning environment for their children. These can help parents develop constructive ways to involve their children in family mathematics activities. Lists of events, places or things in the community that involve concepts in mathematics can be distributed to parents. Teachers can prepare an annotated bibliography of appropriate mathematics books that can be found in the public library or might be purchased for children as gifts, such as Don't Count Your Chicks by Ingrid D'Aulaire or Shapes and Things by Tana Hoban (see bibliography in appendix).

Additionally, teachers might set up a math clinic where children's mathematical learning difficulties are diagnosed and remedial work is provided. Parents can participate by discussing their children's work and evaluations. The discussion can help parents recognize the many facets of problems faced by their children. The clinic, with parent participation, can help parents understand ways to provide a supportive environment in the home.

Ashlock (1990) offers several guidelines for parents for working

with their children in math. He suggested that parents introduce mathematics vocabulary while children are working with objects, pictures and drawings; show a personal interest in their children's activities that involve number and shape; whenever children count, measure or collect other quantitative information, encourage them to make a record of what they find; and play mathematics games with their children.

Establishing and maintaining a parent-teacher partnership to aid in children's learning of mathematics is not an easy task but is well worth the effort. A parent-teacher partnership not only benefits the child and his learning of mathematics, but also benefits the teacher and the parent by establishing a rapport that is mutually beneficial.

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